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In this issue

Project English—A Progress Report
J. N. Hook

State Aid—New Hope for City Schools
Fred F. Beach

MAY 1962

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The humanities turn and stand

The retreat of the humanities, which began in an era of materialistic "progress" and continued until it was almost a rout, is about over. Some of the new gods have already fallen; others are proving deaf to the supplications of a panic-stricken world. Thoughtful men are once more turning for aid to the disciplines which provide intellectual moorings, which teach a way of life that has symmetry and proportion. As we grow more aware of the crassness of our materialism, we are coming to realize the folly of a civilization worshiping only pragmatic techniques or tangible things. Chastened and humble, we are beginning to turn to the traditional learning that helped give wisdom to the men of 1787. And if the democracy of individualism survives, the humanities will again become a dominant force in our cultural life. Or perhaps one might better say that if the humanities survive and become a vigorous force, an intelligent democracy may once more rule in the world.

—Louis B. Wright, *The Retreat of the Humanities*
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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE • Abraham Ribicoff, *Secretary*
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Careers in health sciences

The National Health Council invites high school students to consider careers in the health sciences through a new publication "New Careers in the Health Sciences." It has sent the 24-page booklet to high school science teachers, counselors, and librarians to put it within reach of high school science students throughout the country. Distribution was made with the help of the National Science Teachers Association, the American Personnel and Guidance Association, the American Association of School Librarians, and the Office of Education. The booklet has been published under a grant from the National Science Foundation and was prepared with the cooperation of the Public Health Service.

"New Careers in the Health Sciences" highlights new careers opening up in physics, chemistry, mathematics, and engineering combined with biology and medicine. It gives particular attention to new fields, such as bioelectronics, biological mathematics, medical engineering, space medicine, and ultrasonic surgery. The booklet closes with an account of the pros and cons of education for and careers in the health professions from the student's point of view.

In addition to the distribution made by the Council, a number of State and national organizations have distributed the publication to members not receiving copies from the Council. The Council will, as long as its supply lasts, send single copies on request (1790 Broadway, New York 19, N.Y.).

AEC education office

The Atomic Energy Commission has established a Division of Nuclear Education and Training. Its function is to administer education and training programs in nuclear science and engineering, the use of radioisotopes in the physical and engineering sciences, radiation biology and the life sciences, health physics, industrial medicine, and industrial hygiene. It will also develop and maintain all AEC policies on education and training and will review and coordinate AEC education and training programs.

Program for Indian nurses

The Public Health Service has established an advanced field training program at Shiprock, N. Mex., for Indian practical nurses. For 27 years it has operated a school at Albuquerque, N. Mex., in practical nurse training for Indian girls, but this is the first advanced program. Graduates will assist public health nurses in the Division of Indian Health.

Most of the nurses who complete the course at the Indian School of Nursing in Albuquerque—a total of 750 at the end of 1961—serve their own people in the 52 Indian and Alaska native hospitals PHS operates.

The program furnishes hospitals with workers who understand the Indian people. Students have one-fourth or more Indian blood and are high school graduates. The course covers a year and is accredited by the National Association for Practical Nurse Education. PHS also trains Indian men as sanitarian aides and for other types of hospital and health work on Indian reservations.

Watershed recreation areas

A community does itself a double service when it builds a small watershed project and sets aside some of the land for outdoor recreation. The watershed will provide control for floodwaters and protection from erosion and the recreation area will meet a demand for play areas growing with each birth. Small watershed developments—ranging from 10,000 to 250,000 acres—are excellent locations for recreation projects—for they offer boating, fishing, swimming, and camping and land for picnic areas and wildlife preserves.

A community can have financial and technical help from the Federal Government in planning and developing watersheds under the Small Watershed Program (authorized by Public Law 566). The Department of Agriculture provides technical and financial assistance and loans for development through the Soil Conservation Service, Forest Service, and Farmers Home Administration.

The Soil Conservation Service has released this month a leaflet describing "Outdoor Recreation on Small Watershed Projects" and will send single copies to teachers, youth leaders, and others on request to any field, or State office or to the Office of the U.S. Soil Conservation Service, Washington 25, D.C.

Texts for the deaf

To determine whether deaf students learn mathematics more effectively by programed instruction than by conventional methods, Gallaudet College is conducting a 2-year study to evaluate secondary school mathematics programed texts. The project will also try to find out what characteristics of the deaf student will predict successful achievement with programed text, such as ability in English language and emotional maturity. Students in Gallaudet's Preparation Department will take part. A $24,000 grant from the Office of Education is financing the project.

Women as technicians

The attitude that a technician's work is "man's work" may be one reason why there are so few women working in jobs as technicians, according to the Women's Bureau of the Department of Labor. Yet, says the Bureau in its new bulletin, "Careers for Women as Technicians," many women are working successfully as technicians and the outlook for employment as technicians is excellent for women. The United States will need 800,000 more technicians by 1975 (an Office of Education estimate) and many of these positions can be filled by women with the proper qualifications, the Bureau believes.

With the excellent employment opportunities in mind, the Bureau suggests to young women that they consider careers as technicians—as electrical inspectors, engineering technicians, instrumentation technicians, standards aides, and technical illustrators, to name a few of the fields opening up to them. In the bulletin the Bureau discusses the characteristics of technicians, the training they need, and where they find employment, as well as their employment opportunities.

Copies of "Careers for Women as Technicians" (WB Bulletin 282) may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C., for 20 cents each.

Length of school year

Though many American boys and girls will doubt it, they enjoy longer vacations than many students in the world. The United Nations Educational, Scientific, and Cultural Organization, in a comparative study of the school year in 52 member nations, finds that the average school year of 180 days in the United States is shorter than the school year in 42 other nations. A student in the Republic of China, for instance, attends school 252 days, in Viet-Nam 240 days in elementary school and 216 in secondary school, and in Austria and Monaco 240 days. On the other hand, students in Italy attend only 154 days.

UNESCO undertook the study because of the many requests to its education clearinghouse for information on the school year. The study surveys organization of the academic year in schools and universities, including the number of school days a week, number of hours a school day, average length of lessons and recreation periods, holidays observed, and length of vacations.

Copies of the report, "The Organization of the School Year—A Comparative Study," No. 43 in the Educational Studies and Documentaries issued by UNESCO, may be obtained by writing to the U.S. National Commission for UNESCO, Department of State, Washington 25.

Barriers of thoughtlessness

Because many barriers have been toppled, many handicapped persons are working efficiently and happily at many types of jobs. But many barriers still exist for them—the "barriers of thoughtlessness", as the President's Committee on Employment of the Physically Handicapped and the National Society for Crippled Children and Adults call them. What are these barriers that keep some handicapped persons from employment or make it difficult for them to work? They are imposing stairways impossible for the man in a wheelchair or wearing braces to climb; restroom facilities not suitable for wheelchairs; telephone booths too narrow for a wheelchair to enter; doorways leading to hazardous places not marked for the blind. But they are barriers easily destroyed with thoughtfulness.

The President's Committee and the National Society for Crippled Children and Adults have prepared a kit of material on these barriers and what can be done about them called "Breaking Down Architectural Barriers." Among the material it contains is the American Standards Association's specifications for "Making Buildings and Facilities Accessible to and Usable by the Physically Handicapped." Representatives of the Department of Labor, Department of Health, Education, and Welfare, and Veterans Administration were members of the committee which prepared this publication.

Copies of the kit may be obtained from the National Society for Crippled Children and Adults, 2023 West Ogden Street, Chicago 12, Ill., or the President's Committee on the Employment of the Physically Handicapped, Labor Department Building, Washington 25, D.C.

EUGENE P. MCLOONE

Flexibility in local support of the schools: A proposal

IN THE TRADITIONAL DIVISION of tax sources between State and local governments, the property tax has been more or less reserved to local governments; and nonproperty taxes, notably those on sales and income, have generally been the province of the State. As a consequence, a single decision answers two questions:

> How much money should come from the local district and how much from the State?
>
> How much should come from property taxes and how much from nonproperty?

In other words, to vote yes on a proposal to increase the local government's contribution to the State-local partnership in support of the schools is virtually tantamount to voting yes on a proposal to increase the property tax.

I propose that these decisions be separate—one for the type of tax, one for the level of government. But before I undertake to outline a method of separating them, let me try to give some perspective on the *need* for separation, by reviewing, first, the changes that have taken place in the last decade in the sources of support for local government and, second, the relation between the State-local partnership—that is, the foundation program—and the reliance on the property tax.

Even to persons familiar with State and local financing, a review of recent changes in the sources of support for local governments may bring some surprises. During the past decade local governments financed from their own sources an increasing percentage of their total expenditures and would have had to spend more had they not received Federal funds for public assistance and for highways. State aid dropped off in relative importance. Although nonproperty taxes were introduced on the local scene, at least in some places, the property tax maintained its relative importance in the State and local system of taxation.

Today the property tax is the source of more than 85 percent of local government's tax dollars and, since State law limits school districts almost entirely to this source of local funds, it supplies more than half of the school's. Its continued importance has resulted from increases not only in the tax base but in the tax rate. True, the percentage of school revenue provided by this source has declined, but school revenue from local sources has increased both in dollars and in the percentage it represents of property tax collections—generally, that is, for States vary in their reliance on the property tax for the schools. As for the States, in 1961 they collected, on the average, only 3.3 percent of their revenue from the property tax, and only 3 States—Nebraska, Wyoming, and Arizona—collected more than 10 percent.

The relation between the foundation program and increases in the amount of revenue collected through the property tax can be traced to the lack of flexibility in the two variables in the program that are subject to control by government—the level of support and the uniform local tax rate.[1] Although no direct evidence is at hand, two facts offer a reasonable explanation:

First, a fixed foundation level becomes almost at once out of date; it is scarcely established before it is left behind by the rising prices. In the past decade almost every revision of State aid has been upward, to make up for the lag.

Second, whenever a local community has wanted more money for its schools, either to offset price increases, to improve the quality of education, or merely to keep up with the increasing school population, it has had nowhere to turn except to the property tax. As a result, school revenue from the property tax in the past 10 years has kept pace in dollars with State aid.

The fact that inflexibility extends in two directions—

This is the third article Dr. McLoone has written for School Life *on the adequacy of present sources of revenue for the schools (the others appeared in December 1960 and in September 1961). He is at present away from his position in the Office of Education as specialist, economics of school finance, to study, as a Federal executive fellow at the Brookings Institution, the responsiveness of the property tax base to changes in income.*

[1] The amount of State aid given to a particular school district under the foundation program is usually expressed by this formula, $A=uN-rC$, in which u is the standard cost per unit of need, such as the pupil; N, the number of these units in the district; r the uniform rate of local effort, i.e., the millage rate on property; and C, some measure of the property, which in turn is a measure of the financial ability or tax base of the district. In other words, the amount of State aid to the district equals the cost of the foundation program in the district *minus* the local contribution computed at the uniform rate.

to the foundation level and to the local property tax rate—makes the problem of school support doubly complicated. Fortunately a number of States already are attempting to correct the inflexibility in the former. Wisconsin, Rhode Island, and New York, for instance, all have adopted plans by which to make the foundation level respond to local effort; their foundation programs will provide a range of dollar amounts rather than a fixed amount. Almost no attention at all, however, has been given to mitigating the effect of inflexibility in the local rate chargeable to the district in the foundation program; and it is this side of the problem that I wish to consider here.

Whenever the value of property rises in a community, either because new buildings are constructed, prices rise, or property is revaluated, the local property tax base increases; and even without any change in the levy the revenue chargeable to the local district increases. The effect on the State-local support program is to increase the contribution by the local district and to reduce the amount from the State. This effect is not lessened even in those States where the foundation level varies with local effort, for the local effort does not increase unless the community increases the property tax rate.

From the property taxpayer's point of view, therefore, the State-local foundation program makes things no easier, at least not for him: the level of support specified in the foundation program generally operates to push property taxes higher. And he is not likely to be consoled by the fact that the total amount raised throughout the State for the schools by means of the uniform local rate in the foundation program is less than the amount that could be raised if the same rate was applied on a statewide basis. Almost every State has its industrial enclaves, its wealthy residential communities, and its small contracting districts which do not participate in the equalization part of the foundation program; these usually can have an adequate school program without levying a rate as high as the uniform rate required by the foundation program, and they usually levy a lower rate.

This inequity among the State's property taxpayers in support of the foundation program could be corrected by a statewide property tax at the level of the uniform rate in the foundation program. Through such a tax all property, not only property in the participating districts, would contribute to the foundation support. Making it statewide would not make it higher but would merely shift part of the property tax levy from the localities to the State.

Nor would it curtail the freedom to tax at the local level if the tax sources now generally reserved to the State were available also to local governments. Under this condition, local communities with the capacity and the desire to spend more on their schools could, instead of increasing their property taxes—as they still could if they wished—levy local nonproperty taxes over and above those levied by the State. These would be supplemental levies riding atop the State tax base, and the revenue would be collected by the State for the community. Already this is being done in several States; in California, Illinois, and Mississippi, local governments are using supplemental, or "piggyback," rates on the State-administered sales tax. Adding nonproperty taxes to the realm of the local government in this fashion not only increases the number of choices available to citizens when they go to vote for more taxes for their schools but also spares the local government the difficulties attendant on administering a nonproperty tax. Anyone who doubts the propriety of such an arrangement should remind himself that, after all, it is commonplace in education to declare that the area of fiscal responsibility for collecting taxes for schools does not need to be the operating area; this is a principle repeatedly demonstrated in State-local foundation programs.

One problem—that school districts organized for efficient operation of the educational program may be too small to permit piggyback levies on sales taxes—finds a solution in many Western States, where the county, situated halfway between the State and the local districts, is a third partner in the school support program. Most of these counties already levy a countywide tax for the schools, the proceeds of which are added to the State and local contribution to equalize educational opportunities in the local districts within the county. With its large area, the county government would no doubt be more effective than the local government in adding a supplement to the State sales tax. In fact, the State-county-local partnership seems made to order as an aid to separating the question of tax source from the question of government level.

At least one argument for combining, for public school purposes, a State property tax with local supplements to State nonproperty taxes is that it will help to disabuse many people of a popular misconception—that State aid exists to reduce or replace the property tax. True, State aid was established for this purpose in many States, but it cannot serve that purpose now. We live in a time that calls not for replacements of existing tax sources but for supplements to those sources; for additional taxes or increased rates, not fewer taxes and lower rates. The choices now available to local communities hard pressed for more school funds—higher local property taxes, new local nonproperty taxes, or additional State aid financed by State nonproperty taxes—must somehow be made broader.

There are many ways in which State, county, and local governments can use property and nonproperty taxes, and

we look out upon an area where many new alinements are both possible and desirable. For the choices we must make among them, we can get some guidance from the basic principles of school finance which have been developed over the years; but as Erick Lindman says, these principles only "guide broadly, leaving many specific questions unanswered." And, as he goes on to say, "To find answers to these troublesome questions requires a careful analysis of a complex array of conditions in each State which affect its school finance program."

Teaching English to culturally deprived children

A conference of teachers

TONY'S future isn't very bright. He's 10 years old now and still hasn't learned to read, and until he does, it isn't very likely that he will learn much else. Who's to blame for Tony's backwardness? Not his teacher, for she has tried to teach him reading by both traditional and progressive methods. And not Tony, for the obstacles to his learning are too great for any 10-year-old to surmount alone. No single person is, in fact, to blame for Tony. The conditions under which he lives—the crowded and depressed neighborhood with its racial and language conflicts; the material, intellectual, and cultural poverty of his home; the lack of intellectual aspiration—have made him culturally different, have placed him at an educational disadvantage. Tony is only one of the many children who live and grow up under similar conditions in our largest cities.

Though no one person can be held responsible for these culturally disadvantaged children, an increasing number of persons have recently been trying in various ways to help them. Commissioner McMurrin has invited a number of these persons to take part in an Office of Education conference, to be held in Washington, May 31 to June 2.

Because the culturally different pupil in the upper grades is often 2 or more years below normal in his ability to read and write English and because there is a close correlation between skill in reading and achievement in other subjects, the conference will focus on the improvement of instruction in English in elementary and secondary schools. All participants will be men and women who have had experience in teaching English to the culturally deprived. With Office specialists in English, reading, and other subjects, they will consider the objectives of the English program from kindergarten through high school; new ways of teaching basic skills in reading, writing, and speaking; and the programs for culturally disadvantaged pupils in Chicago, Detroit, Houston, New York City, Philadelphia, and other large cities. Specifically they will try to answer these questions:

What are the school's and the community's responsibilities for the education of culturally different boys and girls? What should be the basic aims of the English program for them?

What kinds of learning experiences, materials, and programs are proving most effective in teaching them English?

What kinds of English programs will be needed for them?

What procedures are proving most effective in the selection and inservice preparation of English teachers for them?

What has research found that would aid their teachers? What research should be proposed?

Teachers in many rural, suburban, or other middle-class communities may not immediately realize the importance of finding answers to these questions. Their pupils begin school with many skills Tony has not acquired; they are used to handling books, pencils, crayons; are familiar with standard English; have stronger feelings of security and are not as likely to be hostile to the school. But the teachers who attend the conference and others who are searching for answers have Tony in mind. They know his problems and feel responsible for making his future brighter.

Members of the Office planning committee who will serve as chairmen of the six sessions are :

Arno Jewett, specialist for English.

Sue Brett, specialist for English curriculum development.

Warren Cutts, specialist for reading.

Doris Gunderson, assistant specialist for English.

J. N. Hook, coordinator of Project English.

Helen K. Mackintosh, Chief, Elementary Schools Section.

Later in the year the Office of Education will publish the conference papers, proceedings, and recommendations along with reports by Office specialists of their visits to schools conducting special English programs for the culturally disadvantaged.

J. N. Hook

PROJECT ENGLISH—a midyear progress report

PROJECT ENGLISH is already far into the program outlined for it when it began, barely 5 months ago. The 3 curriculum study centers provided for in this year's budget have been contracted for; a national conference has been held to identify the problems in greatest need of research; and 10 projects (in addition to the centers) have been approved for inclusion in the Office of Education's cooperative research program. Before this month is up, the Office staff will be in the middle of a conference with teachers and supervisors from at least 30 large cities to concentrate on the teaching of reading and composition to children at a cultural disadvantage (for an account of the conference plans, see p. 7). And the first issue of *PEN* (*Project English Newsletter*), one of the means the Office will use in its service as a clearinghouse of information, has been prepared for mailing; it goes to chairmen of college departments of English, to deans of education, members of professional organizations, and to anyone else who wishes to be on the mailing list.

The curriculum centers

The 3 curriculum centers—at Carnegie Institute of Technology, Northwestern University, and the University of Nebraska—are the first of what may eventually be as many as 10. As projects in the Office of Education's cooperative research program, they will be supported partly by the Federal Government, partly by the sponsoring educational institutions. Carnegie Tech, which has a 4-year program, will receive $220,000 in Federal funds; Northwestern and Nebraska, both of which have 5-year programs, will receive $250,000 each. Each institution will contribute about $60,000. In each, the work will begin this summer.

All have the same broad purpose—to devise a curriculum for English by which students will learn reading, composition, and other language skills in a logical and systematic sequence. The centers are not teachers' institutes, with regular courses of study; they are in effect laboratories, for not only will they devise curriculums and develop and select materials and methods but they will test these in actual practice in actual classrooms. The testing will be done in schools in the immediate area of each center. English teachers and supervisors in those schools will work closely with the center staff; and each summer they will come together for several weeks to plan what they will offer in their classes the coming year, to determine what controls they will use, and to work out sensible sequences—sensible from the standpoint both of subject matter and of the students' abilities and skills; in fact, one of the goals of every center is to reconcile these all-too-often antagonistic determinants of curriculum sequence. After the first year, the summer sessions will be used also to evaluate the courses tested in the foregoing year.

The centers will differ, however, in a number of ways—in the grades they work with, for example, and in the skills they concentrate on. As their work progresses, they will exchange information and be helpful to each other, but at no time will they join in an effort to produce a single good curriculum. The goal, rather, is to produce several good curriculums so that, when the centers have finished their work, they will have made available to the Nation a great variety of tested materials, methods, and curriculum sequences which local schools can adopt or adapt to suit their particular needs. In the meanwhile, from time to time as the experimental materials and curriculums prove their worth, the centers will broadcast information about their conclusions and recommendations.

The Carnegie Institute of Technology, which already has spent 3 years cooperating with Pittsburgh schools in an advanced placement program in 12th-grade English, will limit its center to the building of a curriculum for able college-bound students in grades 10 through 12. Five

Dr. Hook, who is temporarily in the Office of Education as the coordinator of work under Project English in its early stages, is a professor of English at the University of Illinois. He is the author of The Teaching of High School English, Modern American Grammar and Usage, *and* Guide to Good Writing.

high schools will cooperate—Edgewood Borough, Fox Chapel Area, North Hills, Penn Hills, and Wilkinsburg Borough. This summer's planning sessions will be for the 10th grade; those of the next two summers, for the 11th and 12th grades. One of Carnegie's long-range goals is to establish a set of standards for high school English which will be useful to colleges in their effort to make their freshman English courses a logical continuation of the high school's, free alike from needless and enervating repetition and from puzzling gaps.

Staff at the Carnegie center will be directed by Erwin R. Steinberg, dean of Margaret Morrison Carnegie College; Robert Slack, a professor in Carnegie Tech's department of English, will be the assistant director. Other members of the English department and a member of the psychology department also will participate in the planning and in the administration.

The Northwestern University center, though it will not neglect reading and the study of language, will emphasize the teaching of composition. "Writing," says Codirector Jean H. Hagstrum, "is a skill absolutely basic to the other parts of the English curriculum and to the most important activities of our culture."

Because learning to write is a long process which for nearly everyone begins in the first grade and for many people continues as long as they live, the center has had to set limits to its task: it will confine itself to the years from the seventh grade, in which rudimentary exposition is already being taught, through the sophomore year of college, which for most students is the last year of general education. The teaching of composition over that 8-year period will be viewed as a continuous whole; and much effort will be spent on the sequence of instruction so that the student, as he moves ahead, will do so in a curriculum which grows increasingly sophisticated and challenging.

In addition to Dr. Hagstrum, who also is chairman of Northwestern's English department, the center will have, as its codirector, Eldridge T. McSwain, dean of the School of Education. Also involved will be the College of Liberal Arts, the School of Speech, and the Graduate School. The participating high schools are Evanston Township, Evanston; New Trier, Winnetka; Maine Township, Des Plaines; Niles Township, Skokie; Glenbrook, Northbrook; and Highland Park; the junior high schools are in Evanston, Winnetka, Glenbrook, Highland Park, Glenview, Kenilworth, and Des Plaines. The Chicago Board of Education and the general superintendent of schools also are cooperating.

The University of Nebraska center will cover all grades from kindergarten through the first year of college. It, too, will emphasize composition. Director Paul A. Olson, in speaking of the decision to do so, says, "One of the greatest problems in schools is getting the students to write logically and lucidly. This problem is associated with a kind of vacuum: in language and literature we have a sound knowledge which we can transfer to the classroom, but when it comes to composition we simply do not know what we should teach or how we should teach it."

> The very definition of good prose is—proper words in their proper places;—of good verse—the most proper words in their proper places. The propriety is in either case relative. The words in prose ought to express the intended meaning, and no more; if they attract attention to themselves, it is, in general, a fault. In the very best styles, as Southey's, you read page after page, understanding the author perfectly, without once taking notice of the medium of communication;—it is as if he had been speaking to you all the while.
>
> —COLERIDGE, *Table Talk.*

The center will begin this summer to plan an experimental curriculum and develop new materials for the teaching of composition; and this fall it will start trying them out in one grade at each of three different levels; i.e., in one primary grade and in one junior high and one senior high school grade. In each successive year it will add another grade at each level until it has tested a complete 14-year program. The testing will be done in a number of distinctly different schools—some large, some small—in the Omaha-Lincoln area. The center also plans considerable research on such questions as these: How can the new science of linguistics help in the teaching of composition? Is close analytical reading useful? Can a student learn to write by systematically following prose masters as models? What kinds of tests will measure excellence? At what level of maturity do students form the basic composition habits?

The Nebraska center will begin its work on a base laid last summer, when an English workshop sponsored by the Nebraska Council of Teachers of English and financed by the Woods Charitable Fund drew up an articulated English curriculum for all grades through the first year of college. This summer the fund will support a teachers institute which also will tie into the center's program: it will train about 30 English teachers from all grade levels in the use of the center's experimental curriculum and materials.

Associate director of the center will be Frank Rice, a teacher from Omaha's Central High School. Major policy will be determined by a board which includes, along with the directors, James E. Miller, Jr., chairman of the

university's English department; Dudley Bailey, director of freshman English; and Mary Milenz, professor in the department of secondary education.

The research conference

On May 5–7 the Carnegie Institute of Technology, supported by Federal funds provided under Project English, held a conference to identify the most pressing research problems in the teaching of English. About 50 persons had been invited to help in the task—teachers of English at all three academic levels, school administrators, professors of education and psychology, representatives of professional organizations and of State departments of education, and specialists from the Office of Education.

From the dozens of research projects the various participants pressed for, the conference selected several for top priority. Among them were studies on—

- Curriculum sequences that take into account both logical progression in subject matter and individual differences in ability to learn.
- Interrelationships among various parts of content; e.g., the relationship between linguistic knowledge and reading, literature, and composition.
- The steps, or processes, by which persons develop the ability to speak, to read, to write.
- The relationship of logic and the reasoning process to composition and to reading, both of literary and of nonliterary materials.
- Ideal programs for preparing teachers for the various academic levels.

But a list of first-priority projects is not the only result of the conference. There will be at least three others:

First, a formal report on the conference will be prepared by the chairman of the conference, Erwin R. Steinberg, and will be published next fall, to make widely available the papers presented, the summaries of the many discussions, and the reports of the study groups. It will be distributed to colleges, universities, State departments of education, and interested individuals, to stimulate the undertaking of the most essential research.

Second, the conference will certainly give impetus to followup conferences of various kinds, to make more detailed recommendations for research in, for example, the teaching of composition or the relation of English to other disciplines.

Third, feed-in from this conference to curriculum study centers, institutes, and methods courses will be part of the inservice and preservice education of many English teachers, making them more aware of what English teachers do not know and should try to find out.

Cooperative research projects

As of the first of the month, Project English was sponsoring, with support from the Office of Education's cooperative research program, 10 research studies; most of these, however, had already been established before Project English came into being. These are the cooperating institutions, the directors of studies, and the subjects:

- Claflin College, South Carolina, San-Su C. Lin. Use of patterned practice (similar to that used in teaching English as a foreign language) with native speakers who have distinctly nonstandard dialects.
- Florida State University, Dwight L. Burton. Effects of frequency of writing and intensity of evaluation upon performance in written composition.
- Gallaudet College, District of Columbia, Howard Roy and Jerome Schein. Use of modified electric typewriters to help deaf children learn language.
- Mount Olive Junior College, North Carolina, Roy C. O'Donnell. Relationship between ability in written composition and awareness of syntactic relationships.
- Teachers College, Columbia University, Arno A. Bellack and Joel R. Davitz. Relation of the language of the classroom to student learning.
- University of California at Los Angeles, Evan R. Keisler and John D. McNeil. Two methods of teaching reading with a teaching machine.
- University of Delaware, George H. Henry and John A. Brown. Ways of developing unfamiliar concepts in high school students.
- University of Louisville, Kentucky, Ray H. Bixler and Emerson Foulke. Use of compressed speech recordings in teaching blind children.
- University of Pittsburgh, Edwin H. Hill. Characteristics of compositions written by children in intermediate grades.
- University of Wisconsin, William McColly. Comparative effectiveness of the following on the learning of composition skills: Writing, drill on usage and mechanics, self-instruction, group discussion, theme correction and criticism, and immediate tutorial feedback.

More studies are likely to be approved soon, for the advisory committee to the Office of Education's cooperative research program meets this month to consider all research proposals received before April 1. The proposals come from colleges, universities, and State departments of education; since Project English was inaugurated, about 40 research proposals with implications for the improvement of English instruction have been received. The next deadline for filing proposals is September 1; for information write to the Coordinator of Project English, Office of Education, Washington 25, D.C.

FRED F. BEACH

State aid—new hope for city schools

An exploratory conference on the school finance problems of large cities was held in the Office of Education on May 10 and 11, under the leadership of Clayton D. Hutchins, chief of the School Finance Section. Two ideas dominated the discussion. One centered on the plight of the large city as it struggles to provide schools in the face of outmigrating wealth and inmigrating poverty; the other, on possible solutions to its financial problems. This article reports briefly on both.

A LAW that goes into effect in New York State on July 1 received more than passing attention this month from a group of fiscal experts meeting in Washington with Office of Education specialists on school finance.

The new law, passed by the State legislature early in March to provide for the distribution of State funds for the schools, was interesting to the experts because it gives special consideration to city problems. For many years State-aid formulas all over the Nation have contained corrections for the *sparsity* of population, to help rural school districts meet their greater-than-average expenses per pupil; but until now none has contained a correction for *density*. New York is the first State to work out a formula that takes into account the greater-than-average expenses per pupil in the cities.

In effect, the new law repeals numerous allotments of State aid and substitutes a comprehensive general-purpose allotment, which will be limited chiefly by the program desired in the local district. It substitutes a "shared cost" principle for the "foundation" principle. The State will determine its contribution to each district on the basis of the district's wealth per pupil in proportion to the average wealth per pupil in the State as a whole. On this basis some districts will receive no State aid, some will receive enough to meet 90 percent of their costs, but the average will receive 49 percent.

The base figure on which the State will allot the percentages is $500 per pupil. For cities with a population of less than 125,000, the base will be increased to $525; for cities over 125,000, to $550. In other words, the State will allow an extra $25 and $50 per pupil to compensate for the extra costs that come with density of population. At present, of course, the extra allowances are based on rough rather than perfected measures of the cities' needs, but as the State gains experience with its new formula and as research is done on the matter, the measures will be refined.

These changes in New York's formula will bring substantial benefits to the urban centers. Until the plan is in operation, however, the amount of extra benefit cannot be accurately stated; it has been estimated at more than $60 million for the next school year. Total State aid under the plan will increase by about $123 million—from approximately $830 million in the current fiscal year to $953 million in the next.

Adjustment for density, however, is not the only advantage in prospect for New York's cities. The formula provides aid also for school construction and for pupil transportation. Next year, for the first time, aid for school construction (for both capital outlay and debt service) will be extended to all districts; the State's contribution will be determined on the same basis as its contribution to the operating funds. Also for the first time all districts will be reimbursed for 90 percent of the transportation costs for pupils who live a mile and a half or more away from school.

To the group of fiscal experts meeting in Washington, New York's new formula seemed a revolutionary plan, a pioneering effort, one which other States might come to emulate in one form or another. All of the experts were themselves experienced in the use of a State aid formula, either in the allotment and distribution of funds from a State office or in the receipt and use of these funds in city schools; and they saw in the terms of the New York formula a significance which less knowledgeable men might have missed. The formula by which a State distributes its funds to local schools is after all extremely important, for it not only determines what each district is to receive but it involves great sums of money. Throughout the Nation almost $9 billion in State funds is distributed annually by way of formula—enough to pay about 40 percent of the operating expenses of the public schools.

As they focused their attention on the adequacy of existing State aid formulas from the standpoint of the large city school systems, the conference of experts tried to delineate clearly the answers to four questions in particular.

1. Why are city costs so much above the average?

Aside from the swiftly growing enrollments, there are

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two major factors in the high costs of education in the large cities.

First, the city has great need for special educational programs. It needs a variety of programs in vocational education. It needs programs for large groups of persons with special problems—the culturally deprived and the socially maladjusted; children and adults unable to speak English; the unemployed, both young and old; dropouts; migrants; and children with poor health and low vitality. These programs are expensive: they require lower pupil-teacher ratios; a larger staff of counselors, psychologists, visiting teachers, and other specialists; and more special equipment and supplies. And the fact that there are so many persons in each of these categories requires the schools to spend additional sums to recruit and retrain teachers for special groups; to find ways of coping with disinterest, low vitality, vandalism, delinquency, and the problems attendant on high population mobility; and to arrange for welfare services for children whose parents are unable to provide such necessities as food, clothing, medical care, books, and bus rides.

The extent of these costs was illustrated by one of the conferees: for all education programs in his city the average cost per pupil is $413, but in special programs it ranges from $541 to $1,648. Such costs are compounded by the fact that the children needing the most expensive services make up a large percentage of the total enrolled. The percentage varies, of course, from city to city, but some idea of the size of the problem can be gained from a fact uncovered in a study made in 1960 of the public schools in the 14 largest cities—that 1 in 3 pupils is among the severely culturally deprived—and this is only one of the groups needing a special education program.

The second major factor is that of bigness itself. Large cities must pay high prices for school sites, sometimes nearly as much as they spend on the school building itself. And there are other circumstances besides, which also take a heavy toll of the city school budget; among those discussed at the conference were the wage scales, the restrictions imposed by city building codes, the complications of supply management, the delivery costs, the communication expenses, and the adjustments required to correct the inevitable dislocations caused by urban renewal projects and construction of superhighways.

2. What prevents cities from meeting these costs?

The conferees agreed that the current fiscal policies of the large cities cannot produce the funds to meet either present or future educational needs. While school costs are skyrocketing, local funds are not forthcoming to meet them. Since the Second World War the financial status of cities has changed markedly: growth of the suburbs, shifts in taxable wealth, and population migration are three of the factors which have put cities in a less favorable financial position in the States than they formerly were.

Although cities differ from each other, each is having to bear heavier educational responsibilities, and each is in a less favorable position to finance its educational program. The property tax, the main source of local revenue, is becoming less and less adequate either as a measure of the wealth of cities or as a source of revenue. Local taxable valuation per pupil is declining while per pupil costs are increasing. Besides, constitutional and statutory provisions limit the cities' taxing authority.

In short, the problem is this: Large cities are the cores of great economic centers which they cannot adequately tax. The conferees considered the possibility of using nonproperty taxes as sources of additional local school funds, but questioned the administrative feasibility of collecting such taxes and did not consider them the final solution to the dilemma.

3. Should the cities turn to the State for relief?

The conferees agreed that the State could provide a substantial part of the needed funds—could provide even more than the 40 percent which is now the national average—and that cities could justifiably turn to it for aid. After all, they said, aid from the State is merely a form a indirect access to local tax sources. Moreover, State funds are derived chiefly from sources not readily available to local governments—income, sales, and other nonproperty taxes.

4. How can the Office of Education be helpful?

The Office of Education is in a position to undertake a number of activities, the conferees said, to help States and cities with problems involving State aid formulas. They suggested that it serve as a clearinghouse of information about State aid formulas and plans, give consultive services to State and cities, make case studies of problems and changes in procedures and laws, and conduct nationwide studies to (1) analyze the effects of present State formulas on the average expenditure levels in different kinds and sizes of school districts; (2) determine the costs of various educational services and programs, particularly those which are rare in the ordinary school budget but a substantial part of the large city budget; (3) determine differentials in the cost of elementary and secondary education, vocational education, special education, and the education of other groups of "nonregular" pupils; and (4) analyze expenditures per pupil for the total program when they are incurred for various proportions of pupils in disadvantaged categories.

LOUISE OMWAKE ECKERSON AND HYRUM M. SMITH

Guidance in the elementary school

The sooner a child with a handicap—emotional, social, or physical—is identified, the sooner he can overcome it, learn to compensate for it, or learn to live with it. But he cannot learn alone. Without the help of some understanding adult, his handicap sets him apart and interferes with his school work. Guidance consultants in elementary schools can help parents and teachers understand and aid children when they show the first signs of being handicapped. Here Dr. Eckerson and Mr. Smith, in the first of a series of three articles, discuss the need for guidance services in elementary schools.

TODAY'S young people will have to know far more than we know to live successfully in the adult world they are approaching, for theirs will be a world of greatly advanced knowledge, of automation, and of divergent influences. They will be responsible for local and national interests in a world of collaborating countries, a world in which new fields of specialization and old are demanding high-caliber men and women, men and women with knowledge, skills, and ability to communicate their ideas to others. If they are to compete successfully, adjust comfortably to the demands made on them, and maintain their balance and equanimity under a bombardment of new pressures, inventions, discoveries, and ideas foreign to their culture, they must be prepared now. It is the responsibility of the school to prepare them.

But the teacher alone cannot bear the full responsibility. He cannot grow with his subject, update his teaching methods with new media, motivate the gifted and enrich their curriculums, and give the necessary personal attention to the retarded, the underachiever, the handicapped, and all others with problems. He needs assistance in maintaining the physical and emotional health of all pupils to enable them to profit from instruction. Guidance consultants (counselors) can give the elementary school teacher the assistance he needs. In the elementary school the guidance consultant works as a member of a noninstructional professional team made up of the school psychologist, school social worker, school nurse, physician, and perhaps others such as the hearing and speech specialist. The goal of this professional team is to discover and nurture the talents of all children from an early age and to assist each child in overcoming obstacles to his success in work and play. (These services are increasingly being organized within school systems and are known as *pupil personnel services.*) Guidance consultants and the other noninstructional specialists can use the contributions of medical and behavioral sciences to relieve the teacher's burden and lighten, if not always solve, the children's problems.

From our own experiences we know that children do have problems. Looking back at our childhood, we can recall that unfortunate misunderstanding, conditioning, and traumatic events early in our school life formed within us attitudes that lowered our effectiveness in learning and made childhood less than the happy period it should have been. Patterns of feeling, thinking, and acting—if not damaging, at least of little worth—became entrenched in our impressionable years because no understanding adult took note of them, foresaw their consequences, and took measures to change them. Some of us suffered acutely from such "defects" as red hair, unusual height, plumpness, hand-me-down clothes, and second-generation cultures. To make matters worse, our awkward efforts to disguise shyness and insecurity were often misinterpreted. No one thought to point out that to be different in some respects has its advantages.

Most children are occasionally distressed by comparatively small and common problems; others are overwhelmed by severe handicaps and unable by themselves to work out reasonable adjustments. A child who is set apart from other children by his defects, real or imagined, may readily become different from others in his emotions, attitudes, and general behavior. His difference may be a spur to drive him forward; it may be the soil from which

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his creativity springs; it may be a trait or a condition which needs correction; or it may be a defect to which the child must adjust. Whether his deviation from the norm is an asset or a liability depends on the quality and extent of guidance in his development.

Without someone—parent, teacher, or guidance consultant—to help him strengthen, correct, and adjust to a characteristic that sets him apart he may walk alone—unhappily. But some intelligent and conscientious parents and teachers are not equipped by education and experience to sense the qualities in a child who feels different and is therefore limited. Furthermore, many parents themselves need aid in adjusting to their children's problems; even well-meaning parents may sentence a gifted child to mediocrity or harm a personality by misplaced sympathy. Guidance consultants have the education and experience to help adults who are responsible for the environment of children.

As the contributions of guidance consultants are more widely recognized, school administrators are expanding their programs. Discerning teachers have accepted the principle of guidance—the concept of the worth of every person with all the characteristics peculiar to him—and are reflecting the guidance point of view in their classwork. One case in point is the change in teachers' attitudes: Few now rate conformity, or the leveling of differences, higher than individuality. Until recently most of the expansion in guidance services has been in secondary schools. Now, however, as administrators are realizing that guidance can aid in developing individual worth and can lend a new dimension to the education and maturation of children, they are extending their programs to the lower grades. It is time for us to take a look at the guidance services they are providing.

The philosophy of guidance holds that guidance services should be continuous, beginning when the child enters kindergarten and following him at least until he completes his education. Guidance in the elementary school assists *all* pupils directly, and indirectly through their teachers and parents, in making the maximum use of their abilities for their own development and for the good of society. It emphasizes the early recognition of intellectual, emotional, social, and physical strength and weakness; the encouragement of talents; the prevention of conditions which interfere with learning; and the early use of available resources to meet the needs of children.

Not only does an elementary school guidance program help children who have minor and temporary troubles—that means all children—but it influences behind-the-scenes activities which affect every child. Guidance consultants working in elementary schools have the responsibility for enriching teachers' understanding of normal child development and for measures dealing with incipient problems of learning and behavior. Through inservice education and informal conferences, guidance consultants aid teachers in anticipating and subsequently meeting classroom situations with understanding and composure. With the professional support of a guidance consultant, a well-prepared teacher feels more secure in his teaching methods.

In a well-coordinated guidance program measures should be taken early in a child's school life to prevent or remove educational, psychological, and physical deterrents to motivation and learning. For example, a gifted pupil should be identified in the early grades, for it is only the unusual student who can in his high school years overcome his indifference to study or his parents' opposition to changes in his plans and seek a college education. Together the school and the home should work from kindergarten on to motivate gifted children and to plan for education appropriate to their intellectual level. Motivation for higher education does not always start in high school; it may begin with attitudes toward education in the home, study habits in the lower grades, and an early enjoyment of learning and discovery.

Conditions in and out of school create problems for children and increase the need for early guidance. Among them are these:

Crowded classrooms.—Although 1,700,000 more children were enrolled in elementary and secondary schools in 1959–60 than in the previous year [1] there was not a proportional increase in the number of qualified teachers. Classes are oversized, and too many temporary, inadequately prepared teachers stand before them. In such classrooms, a withdrawn child may be overlooked rather than helped, and an entire class as well as the teacher may suffer frustration caused by one aggressive child.

Population mobility.—Ours is an industrial mobile society in which one-fifth of the population moves each year from one home to another. In 1958, 12 million children were displaced to the extent that they left one set of familiar faces and had to adjust to new surroundings, friends, and teachers.[2]

Employment of mothers.—About 30 percent of the mothers who have children under 18 years of age are working; over 20 percent of this 30 percent have children under six.[3] When both parents are employed outside the

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[1] *Annual Report.* U.S. Department of Health, Education, and Welfare, p. 228. Washington, U.S. Government Printing Office, 1960.

[2] *Children in a Changing World,* Golden Anniversary White House Conference on Children and Youth, p. 7. Washington, U.S. Government Printing Office, 1960.

[3] *Children in a Changing World,* Golden Anniversary White House Conference on Children and Youth, p. 10. Washington, U.S. Government Printing Office, 1960.

home, children suffer from the lack of companionship and supervision and weakened family ties.

Broken homes.—Approximately 13 percent of youngsters under 18 years of age lack the guidance of 2 parents because their homes have been broken by death, divorce, or desertion.[4] To these unfortunate children may be added 202,000 born out of wedlock,[5] over a million mentally retarded children of school age,[6] 470,000 delinquency cases,[7] and physically handicapped children numbering in the millions.[8] These conditions are frequently accompanied by educational, emotional, social, or physical problems.

Children in a Changing World, a publication of the 1960 White House Conference on Children and Youth, says of emotional disorders in youth: "No reliable data exist on the prevalence of childhood psychiatric disorders. But in 1955, 1,200 outpatient psychiatric clinics in the country reported that about 212,000 children under the age of 21 had been under diagnosis or care during the year." [9] Emotional disorders have their roots in attitudes of the past as well as in situations of the present. Guidance personnel, alert to signs of damaging emotions in children, may help to change conditions which evoke such emotions.

Maladjustment in children may manifest itself in antisocial behavior. On the early detection of delinquent tendencies, Sheldon and Eleanor Glueck state: ". . . in a sample of 500 persistent delinquents from the underprivileged areas of Boston, the average age at onset of maladapted behavior was somewhat over eight years, with almost half the group showing clear signs of anti-sociality at seven or younger, and nine-tenths at ten or younger. . . ." [10] No one would place the blame for delinquency at the school door, but the school may help in preventing it. The unsuccessful pupil and the maladjusted one—both potential dropouts—are prone to seek satisfaction out of school in nonacademic outlets. They may find their satisfaction in delinquent acts committed with other members of the "out" group.

The need for guidance services in the elementary school has recently been advocated by educational leaders. After an extensive survey, James B. Conant recommends: "In a satisfactory school system the counseling should start in the elementary school . . . ." [11] Conant's conclusions regarding American education, along with the findings of the White House Conference on Children and Youth, resulted in the Conference on Unemployed Out-of-School Youth in Urban Areas, reported in *Social Dynamite:* "During the 1960s, the Department of Labor estimates, some 7.5 million youngsters will drop out before high school graduation. About 2.5 million will not go beyond the eighth grade; two out of three will go no further than the tenth grade . . . . Most dropouts come from lower-income families. A high proportion are classified as 'slow learners,' though many may have higher intelligence than their I.Q. tests indicate and simply lack incentive to perform better. Most dropouts are weak in reading and arithmetic and are likely to have a consistent record of subject or grade failure starting in elementary school." [12]

The fact that pupils who leave school before graduation from high school will find it difficult to earn a living is implied by the occupational outlook as summed up in *Manpower Challenge of the 1960s*, published by the U.S. Department of Labor: "During the coming decade . . . the fastest growth will occur among professional and technical occupations . . . . Among the manual occupations, the need for skilled craftsmen will increase, but the number of unskilled jobs will stay about the same, continuing their long term relative decline . . . the biggest increases will occur in occupations requiring the most education and training." [13] This projection calls for measures to an early foundation for retention of students in school and for occupational orientation. An elementary guidance program encompasses these goals.

Furthermore, it is democratic, economical, and nationally beneficial to assist every person in preparing for a way of life consistent with his interests, special talents, and general abilities, for the goal of a democracy is the well-being of each individual and the aggregate worth of

[4] *Ibid.* p. 21.

[5] *Ibid.* p. 22.

[6] *Annual Report*, U.S. Department of Health, Education, and Welfare, p. 196. Washington, U.S. Government Printing Office, 1960.

[7] *Children in a Changing World*, Golden Anniversary White House Conference on Children and Youth, p. 24. Washington, U.S. Government Printing Office, 1960.

[8] *Annual Report*, U.S. Department of Health, Education, and Welfare, p. 196. Washington, U.S. Government Printing Office, 1960.

[9] *Children in a Changing World*, Golden Anniversary White House Conference on Children and Youth, p. 39. Washington, U.S. Government Printing Office, 1960.

[10] Sheldon Glueck and Eleanor Glueck, *Predicting Delinquency and Crime*, p. 114–115. Cambridge, Harvard University Press, 1959.

[11] James B. Conant, *The American High School Today*, p. 44. New York, McGraw-Hill, 1959.

[12] *Social Dynamite*, The Report of the Conference on Unemployed, Out-of-School Youth in Urban Areas, p. 15–16. 1145 19th Street, NW., Washington 6, D.C., National Committee for Children and Youth, 1961.

[13] *Manpower Challenge of the 1960s*, U.S. Department of Labor, p. 10–11. Washington, U.S. Government Printing Office, 1960.

all Americans. Guidance is based on the assumption that both the person and society profit when the worker is happy in his job.

Recent events have put the spotlight on a national waste in manpower which elementary as well as high schools may lessen by fully recognizing and nurturing the talents of children. An unpublished study on this subject was cited in the *New York Times Magazine*, 1961: "Our latest overall figures on school and college dropouts come from a nationwide study prepared last year for the National Science Foundation. . . . It shows that of the group comprising, intellectually, the top 30 percent of the Nation's youth, about 90 percent of both sexes graduate from high school, about two-thirds of the boys and one-half of the girls get to college. . . ." [14]

Professional and lay organizations have spoken out recently on the urgency for guidance services for all children beginning in kindergarten and extending throughout school. They frequently emphasize human values such as encouraging talents, promoting better adjustment to foster higher quality of work, or increasing happiness of the disturbed pupil and his family. From a purely mercenary viewpoint, they say, elementary school guidance promises to pay off in large figures. Considering the astronomical sums of money that go toward caring for emotionally disturbed patients, apprehending and imprisoning criminals, and providing for the delinquent, indigent, and unemployed, even an ounce of prevention through early and continuous guidance seems to warrant the investment.

Events of these times place an added burden on school children to acquire more education in breadth and depth, and on teachers to use new techniques in crowding more knowledge into young heads. Instead of having one teacher who knows him, his brothers and sisters, and his parents as he might have had in the past, the elementary school child of the 1970's may be taught by a team of teachers, each with special preparation to teach one subject; or he may find in his classroom an assistant teacher to help with routine matters and a master teacher whose influence will inspire and motivate both the regular teacher and the pupils. The success of new developments in education is predicated on the receptivity of each child to learn. An elementary school guidance program working within pupil personnel services brings to all children, directly and through their teachers and parents, professional aid to help them learn. In this way, education becomes a collaborative effort.

[14] John U. Monro, "Proposed: A National Talent Hunt," *New York Times Magazine*, p. 37. April 23, 1961.

GRADUATE PROGRAMS FOR MATHEMATICS TEACHERS

MATHEMATICS TEACHERS can now obtain a master of arts in teaching (M.A.T.) from 29 colleges and universities in the United States. It is a new degree, and its appearance reflects the concern of institutions of higher education for the improvement of teacher preparation.

In all, 183 institutions and branches of institutions offer master's programs for the teacher of mathematics, particularly the secondary school teacher. At about 73 percent of these institutions it is possible for a student to earn a master's degree through summer study alone; at 30 percent through evening or Saturday study alone. The effort of these institutions to accommodate the mathematics teacher is evidence of their interest in improving teacher preparation.

The mathematics teacher can also obtain a doctor's degree in a program designed especially for him at 25 institutions. Four of these programs were initiated in the last several years. The object of most of them is to give the teacher competency in mathematics and in teaching. Many of the teachers who obtain doctorates become college teachers of mathematics, university professors of mathematics education, or specialists in mathematics education in State departments of education or in local school systems.

This information is from a study conducted by Clarence B. Lindquist, specialist in mathematics and physical sciences, Division of Higher Education, Office of Education, from a survey he conducted last year on mathematics programs in institutions granting bachelor and higher degrees. An Office of Education bulletin on the survey is now in preparation.

This information has also been included in the special issue of *Notices*, December 1961, on "Assistantships and Fellowships in Mathematics in 1962–1963," published by the American Mathematical Society. Dr. Lindquist prepared parts I, II, and III of this publication, on master's programs, doctoral programs, and high-speed computer programs in colleges and universities. Copies of this issue of *Notices* can be obtained from the Society, 190 Hope Street, Providence, R.I., for 50 cents a copy.

A list of institutions offering master's and doctor's programs in mathematics education, compiled from Dr. Lindquist's study, can be obtained free of charge from the National Council of Teachers of Mathematics, National Education Association, 1201 16th Street NW., Washington 6, D.C.

Statistic of the Month

Colleges Increase Their Aid To Undergraduates

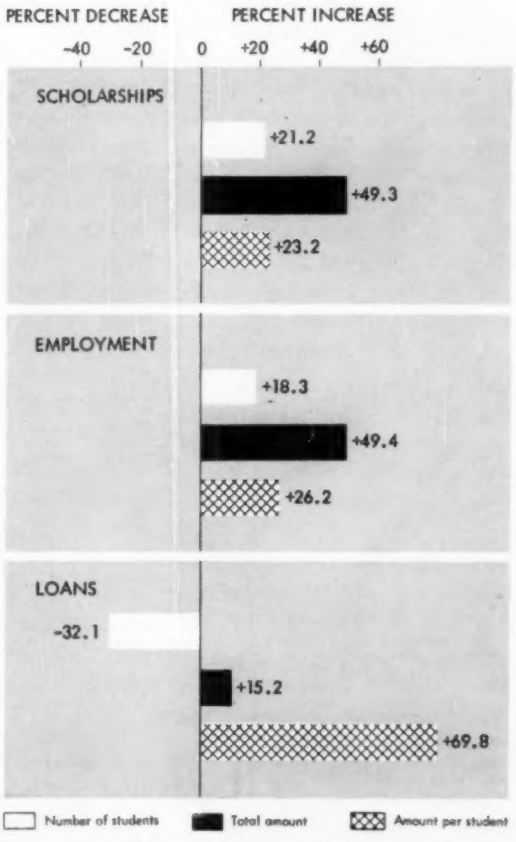
THE TOTAL AMOUNT of financial assistance provided by institutions of higher education to undergraduate students—in scholarships, employment, and loans—rose from $144 million in the academic year 1955–56 to $261 million in 1959–60.

A major factor in the increase was the $50 million supplied by the student loan program under the National Defense Education Act, which began operation during the school year 1958–59; but the amount disbursed for institutional scholarships and employment also rose substantially. Although there was a small increase in the amount of institutional loans, the number of students receiving these loans declined. Assistance given under each of these categories in both of these years is measured in the following tabulation not only in the number of dollars provided but in the number of students receiving aid (as reported by 1,562 institutions in 1955–56 and by 1,677 in 1959–60):

	1955–56	1959–60
Scholarships:		
No. of students	237,370	287,589
Total amount	$65,736,950	$98,157,544
Ave. per student	$277	$341
Employment:		
No. of students	288,479	341,381
Total amount	$65,931,915	$98,491,619
Ave. per student	$229	$289
Institutional loans:		
No. of students	[1] 77,107	52,322
Total amount	[1] $12,463,182	$14,362,182
Ave. per student	$162	$274
National Defense student loans		
No. of loans	([2])	[1] 115,450
Total amount	([2])	[1] $50,151,908
Ave. per student	([2])	$434

At the same time that institutions of higher education increased their aid, the costs of attending them increased. From reports from 196 representative colleges and universities, the Office of Education has calculated that the average institutional charges for tuition and required fees rose by approximately 32 percent in public colleges and universities and by 39 percent in privately controlled institutions. Room and board rates and other living costs also rose significantly.

For information on financial assistance programs in some 1,700 institutions of higher education, the reader is referred to Financial Assistance for College Students: Undergraduate, Bulletin 1962, No. 11 (OE–55027), compiled by Richard C. Mattingly. This bulletin, which may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C., for $1.25, also contains, for individual institutions, data on tuition, required fees, and room and board rates. —By W. Vance Grant, educational statistician.



Percentage of change between 1955-56 and 1959-60 in the financial assistance provided by institutions of higher education to undergraduates.

[1] Includes some loans to graduate students.

[2] The National Defense Student Loan Program was not in operation in 1955–56.

AD Minutes Briefly noted--- for the busy School Administrator

Material for this department is prepared by the staff of the School Administration Branch, Division of State and Local School Systems

For superior teachers. In programs initiated by State legislatures, five Southeastern States are searching for ways of improving the quality of teaching by rewarding outstanding merit: Tennessee, demonstration projects on extra pay for superior teachers; North Carolina, measurements for evaluating levels of performance; Georgia, grants-in-aid to enable some teachers to pursue further studies; South Carolina, pay scale that recognizes the quality as well as the amount of college preparation; Florida, competence awards which provide a pay raise for teachers who are ranked in the upper 30 percent by their superiors and who score at a specified level on the National Teacher Examination.

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Growth in Houston. At the end of the first 6 weeks of this school year, 187,700 pupils were enrolled in Houston (Texas) Public Schools, 10,500, or 6 percent, more than at the same time last year. To accommodate the new pupils, Houston had added 500 permanent classrooms, bringing the total to some 6,700 permanent and temporary classrooms.

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For better schools. By approving progressively larger appropriations, the Virginia Legislature is making it possible for her public schools to raise the quality of their services. Not only is the State appropriation for the 1962–64 biennium larger than that for 1960–62, but the appropriation for the second year of this biennium is larger than that for the first. For the school year 1962–63 the State will contribute $14.6 million more than it did for 1961–62 and for the 1963–64 year, $22.3 million more than in 1961–62. To participate fully in the State distribution, 42 counties and 2 cities must raise their local tax rates for schools.

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Research in Washington State. With a $200,000 legislative appropriation, the 26-member State research advisory committee of the Washington State Office of Public Instruction will conduct research on dropouts, gifted students, community (junior) colleges, guidance, new instructional media, and school libraries. The research, which has been planned for the next two years, will include surveys, comparisons, case studies, pilot projects, and experimental programs. The committee will submit a report to the 1963 legislative session.

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Windowless high school. A $320,000 natural gas turbogenerator, which will supply power for lighting, heating, and air conditioning, is being installed in a new windowless high school under construction in McAllen, Tex.

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Kindergarten survey. The North Carolina Association of Childhood Education, working through an advisory committee, is making a survey of kindergartens in the State. The committee is using a questionnaire to gather information on the size, type of support, physical plant, hours of operation of the kindergartens, the pupils, and the experience and training of the teachers. The information gathered may be used in making recommendations to the State department of education, in developing a master list of kindergartens, and in revising the department's booklet, "Schools for Young Children."

★ ★ ★

New accreditation standards. The South Carolina State Board of Education has set up standards for public schools. Minimum standards for elementary schools, to become effective over the next four years, cover administration and organization, personnel qualifications, curriculum, physical facilities, and maintenance. New and revised standards for high schools, to become effective next fall, cover the principal's certificate, inservice training plan, guidance program, and secretarial staff.

★ ★ ★

Mississippi survey. A legislative education study committee, authorized by the 1960 Mississippi Legislature to study public education in the State, has submitted a 151-page report of its findings and recommendations to the Governor, legislators, and people. The committee based its recommendations on reports submitted by advisory groups made up of 12 to 15 interested citizens, including both educators and laymen. Reports of the advisory groups to the committee have been published in three volumes: volume 1, on public elementary and secondary education and junior colleges; volume 2, on institutions of higher learning; and volume 3, on problems of Negro education. R. L. Johns, University of Florida, and Edgar L. Morphet, University of California, served the committee as chief consultants.

★ ★ ★

New techniques in construction. In a search for new and more fluid forms of construction for schools and other buildings, the Engineering Experi-

mental Station, under a grant from the Educational Facilities Laboratories, Inc., is studying the use of lightweight covering materials with shelled architectural shapes. These shapes are formed by the new technique of laying out patterns with steel reinforcing rods and mesh, springing them into shape by lifting at the center and applying tension between opposite legs by means of cables and a winch.

★ ★ ★

Mobility in Chicago. Approximately 3,000 children from outside Illinois enrolled in five Chicago school districts between September and December, 1961. One school enrolled pupils from 52 different Chicago public schools, from 19 different private schools, from 18 States, and from 5 countries.

★ ★ ★

Deprived children. Of the 31 States that employ 4,000 or more migrant workers a year, only 7 operate summer schools for their children. These summer schools cost an average of $953 per teacher and $73 per pupil. George Haney, Office consultant on education of migrants, collected these facts in a recent survey.

★ ★ ★

Reporting to citizens. Cincinnati school children have taken home to their parents more than 100,000 copies of *Report to the People, '62: Cincinnati School Building Needs*. The newspaper-style report explains the city's need to eliminate overcrowding and to provide space in the schools for a growing population. Later, parent-teacher associations and community groups will distribute copies.

★ ★ ★

Course in school accounting. Again this summer, Michigan College of Mining and Technology will offer a 6-hour graduate credit program in accounting for public school funds. The course will give major consideration to the State department of public instruction's new system of financial accounting which becomes mandatory on July 1, 1962. *A Manual of Instruction, Finance Accounting for Michigan School Districts* was distributed to local schools during the first week in April. The manual incorporates the recommendations in *Handbook II, Financial Accounting for Local and State School Sysetms* (U.S. Office of Education). Donald H. Baker is director of the summer program.

Federal funds bring scholars to language centers

About $2.1 million in Federal funds will go to 33 colleges and universities this coming academic year to pay up to one-half the cost of 53 centers established to expand and strengthen instruction in certain modern foreign languages—and in subjects related to them, such as the history, economics, and political systems of the countries where those languages are spoken. Most of the Federal funds will be used to employ faculty members, including noted foreign scholars.

Federal support is given these centers under the National Defense Education Act, title VI, part A, which refers to them as "language and area centers." The languages they teach are selected on the basis of two criteria specified in the act: First, the languages—that is, persons proficient in them—are critically needed by the Federal Government or by business, industry, or education; second, adequate instruction is not readily available in the United States. Shortly after the act was passed, in 1958, the Commissioner of Education contracted with the American Council of Learned Societies to determine which languages meet these criteria and which ones should receive the most attention. The Council recommended 6 languages for first priority—Arabic, Chinese, Hindi-Urdu, Japanese, Portuguese, and Russian (it also recommended 18 other languages for secondary emphasis and 59 more for special attention). Latin-American Spanish was added to the top list in 1961, after the President's Alliance for Progress program had pointed up the high demand in the United States for persons proficient in the principal languages of Latin America.

Next year's centers will offer instruction in 66 languages. Of these, 51 will receive Federal support though most of the Federal money will go to the top seven. The following list of institutions to receive Federal funds for centers in 1962–63 also briefly designates, *in italics*, the centers and specifies the languages to be federally supported (all but one of the centers are already receiving Federal funds under NDEA):

UNIVERSITY OF ARIZONA. *Oriental studies*, Chinese, Japanese, and Hindi.

UNIVERSITY OF CALIFORNIA at Berkeley. *South Asian*, Hindi-Urdu, Persian, Tamil, and Telugu; *East European*, Russian, Polish, Serbo-Croatian, and Hungarian.

UNIVERSITY OF CALIFORNIA at Los Angeles. *African*, Afrikaans, Hausa, Luganda, Swahili, Bambara, Ewe, Twi, Xhosa, and Zulu; *Latin American*, Portuguese, Spanish, and Nahuatl; *Near Eastern*, Arabic, Armenian, Hebrew, Kabyle, Persian, Uigur, and Uzbek.

UNIVERSITY OF CHICAGO. *Far Eastern*, Chinese and Japanese; *South Asian*, Hindi-Urdu, Bengali, and Tamil and other Dravidian languages.

UNIVERSITY OF COLORADO. *Slavic and East European Studies*, Russian, Czech, Polish, and Hungarian.

COLUMBIA UNIVERSITY. *Latin American Studies*, Portuguese and Spanish; *Soviet*

and East European, Russian and Serbo-Croatian; *East Asian*, Chinese, Japanese, and Korean; *Uralic-Altaic*, Hungarian, Finnish, and minor Uralic languages of the Soviet Union.

CORNELL UNIVERSITY. *South Asia*, Hindi-Urdu and Sinhalese; *Southeast Asia*, Burmese, Indonesian, Thai, and Vietnamese; *East Asia*, Japanese and Chinese (Fukienese, Mandarin).

DUQUESNE UNIVERSITY. *African*, Swahili.

UNIVERSITY OF FLORIDA. *Latin American*, Spanish and Portuguese.

FORDHAM UNIVERSITY. *Russian*, Russian.

HARVARD UNIVERSITY. *East Asian Studies*, Chinese, Japanese, Korean, and Tibetan; *Middle Eastern Studies*, Arabic, Persian, and Turkish; *Slavic Studies*, Russian, Bulgarian, Czech, Polish, and Serbo-Croatian.

UNIVERSITY OF HAWAII. *East Asian*, Chinese and Japanese; *South Asian*, Indonesian, Javanese, and Thai.

HOWARD UNIVERSITY. *African*, Swahili, Setswana, and Yoruba.

UNIVERSITY OF ILLINOIS. *Russian*, Russian.

INDIANA UNIVERSITY. *Slavic*, Russian, Polish, and Serbo-Croatian; *Uralic and Altaic*, Finnish, Hungarian, Korean, and Turkish.

STATE UNIVERSITY OF IOWA. *Chinese*, Chinese.

JOHNS HOPKINS UNIVERSITY, School of Advanced International Studies, Washington, D.C.; *Middle East*, Arabic.

UNIVERSITY OF KANSAS. *East Asian Studies*, Chinese and Japanese.

UNIVERSITY OF MICHIGAN. *Far Eastern*, Chinese and Japanese; *Near Eastern*, Arabic, Kurdish, Persian, and Turkish; *Slavic*, Russian and Polish.

MICHIGAN STATE UNIVERSITY. *African*, Ibo, Swahili, Hausa, Yoruba, Bini, and Twi.

NEW YORK UNIVERSITY. *Portuguese*, Portuguese.

UNIVERSITY OF PENNSYLVANIA. *South Asian*, Hindi-Urdu, Bengali, Marathi, Nepali, Tamil, and Telugu; *Slavic*, Russian, Polish, and Serbo-Croatian.

UNIVERSITY OF PITTSBURGH. *Chinese*, Chinese.

PORTLAND STATE COLLEGE. *Middle East Studies*, Arabic, Hebrew, Persian, and Turkish.

PRINCETON UNIVERSITY. *Near Eastern Studies*, Arabic, Persian, and Turkish.

UNIVERSITY OF SOUTHERN CALIFORNIA. *Soviet-Asian Studies*, Chinese and Russian.

STANFORD UNIVERSITY. *Chinese-Japanese*, Chinese and Japanese.

UNIVERSITY OF TEXAS. *South Asian*, Hindi and Telugu; *Middle East*, Arabic, Hebrew, and Persian; *Latin American Studies*, Portuguese and Spanish.

TULANE UNIVERSITY. *Latin American Studies*, Portuguese and Spanish.

UNIVERSITY OF UTAH. *Middle Eastern*, Arabic, Persian, and Turkish.

VANDERBILT UNIVERSITY. *Russian*, Russian.

UNIVERSITY OF WASHINGTON. *Far Eastern and Russian*, Japanese, Russian, and Tibetan.

UNIVERSITY OF WISCONSIN. *South Asian*, Hindi, Telugu, and Kannada; *Latin American Studies*, Portuguese and Spanish.

YALE UNIVERSITY. *Southeast Asia Studies*, Burmese, Vietnamese, and Thai.

This summer 20 of the centers will spend at least $126,000 to match that amount in Federal funds for intensive instruction in 21 of the critically needed languages: they will pack a full semester's work—some, a full year's—into 6 to 12 weeks, in programs designed primarily but not exclusively for graduate students. The emphasis will be on teaching the students to speak the language, but most centers will integrate the instruction with courses in history, philosophy, political affairs, and so forth.

Three of these centers are being sponsored jointly by two or more universities, which will alternate from year to year as hosts to the summer program. This year they will be held at these universities:

CORNELL UNIVERSITY. Indonesian and Thai at the first session of the Joint University Summer Program in Southeast Asian Languages; 2 semesters in 10 weeks. The next session, in 1963, will be held at Yale.

HARVARD UNIVERSITY. Arabic, Persian, and Turkish at the Inter-University Program in Near Eastern Languages, which this summer holds its sixth annual summer session—its second with NDEA support; 2 semesters in 8 weeks.

UNIVERSITY OF WISCONSIN. Hindi, Telugu, and Kannada at the first annual session of the Inter-University Rotating Summer School on South Asia; 2 semesters in 12 weeks. The University of California at Los Angeles is cosponsor.

The other 17 centers are each sponsored by one university alone, but these, too, will draw on the staffs of other universities. The universities and the languages are these:

UNIVERSITY OF CALIFORNIA at Los Angeles. Spanish, 2 semesters in 6 weeks.

UNIVERSITY OF CHICAGO. Bengali and Tamil, 2 semesters in 11 weeks.

COLUMBIA UNIVERSITY. *East Asian center*, Chinese and Japanese, 2 semesters in 12 weeks; *Latin American center*, Spanish and Portuguese, 2 semesters in 6 weeks; *Uralic-Altaic center*, Hungarian, 1 semester in 6 weeks.

DUQUESNE UNIVERSITY. Swahili, 2 semesters in 8 weeks.

UNIVERSITY OF HAWAII. Indonesian and Thai, 2 semesters in 10 weeks.

UNIVERSITY OF INDIANA. Polish and Russian, 2 semesters in 8 weeks.

UNIVERSITY OF KANSAS. Japanese, 2 semesters in 10 weeks. (This is beginning Japanese, offered particularly for undergraduates.)

MICHIGAN STATE UNIVERSITY. Ibo, Hausa, Swahili, and Yoruba, 2 semesters in 8 weeks.

UNIVERSITY OF MICHIGAN. *Far Eastern center*, Japanese and Chinese, 2 semesters in 8 weeks; *Slavic center*, Russian, 2 semesters in 8 weeks.

UNIVERSITY OF PENNSYLVANIA. Hindi-Urdu, 2 semesters in 12 weeks.

UNIVERSITY OF SOUTHERN CALIFORNIA. Chinese, 2 semesters in 8 weeks.

STANFORD UNIVERSITY. Chinese and Japanese, 2 semesters in 8 weeks.

UNIVERSITY OF TEXAS. *Latin American center*, Portuguese, 1 semester in 9 weeks; *South Asian center*, Arabic (Syrian), 1 semester in 9 weeks.

In addition to the 20 centers working on intensive programs, 3 others will receive Federal support this summer. The Soviet and East European center at Columbia University has a program of Russian studies—government, economics, and history; the Slavic center at the University of Pennsylvania, a Russian language program; and the center for Latin American studies at the University of Wisconsin, two programs in Portuguese—one to be offered at Madison and the other in Porto Alegre, Brazil, at the University of Rio Grande do Sul. A number of other language and area centers also have summer programs this year, but not with assistance under NDEA.

SCHOOL BONDS—

Sales, Interest Rates, et cetera

A monthly report by ELMER C. DEERING, *Office of Education specialist on financing school facilities.*

WHILE SCHOOL BOND SALES were setting a new high record in dollar volume in 1961, voters' approvals of school bond issues were falling to a 5-year low in dollar value. Even so, school bonds fared slightly better than other municipals, although the 5-year average was 3 percentage points below all municipals. The amount proposed and the amount approved are shown below:

Year	Amount voted on in millions	Amount approved in millions	Percent approved
All purposes			
1957	$3,540	$2,733	77
1958	4,992	3,728	75
1959	3,841	2,753	72
1960	6,925	5,917	85
1961	3,808	2,544	67
5-year total	23,106	17,675	76
Public school purposes			
1957	$1,384	$1,019	74
1958	1,863	1,451	78
1959	2,260	1,393	62
1960	2,250	1,858	83
1961	1,208	827	68
5-year total	8,965	6,548	73

Over the past 5 years the percentage of school bonds approved has moved up and down with other municipals, but usually below them. Very likely the lower percentage of school bond approvals reflects the people's greater willingness to vote for self-liquidating projects (water and sewage disposal, for example) which require no increase in tax levy.

Although the Office of Education has tabulated data on school bond elections for only 5 years, the *Daily Bond Buyer* has published results of municipal bond elections, which include school bonds, since 1926. During this 36-year period, voters have approved $50 billion, or 77 percent, of the $65 billion in issues submitted to them.[1] The percentage of approval for the past 5 years may therefore be considered average and, for 1961, 10 percentage points below the average. The highest point was in 1947, when voters approved 92 percent of a total of $2 billion proposed; and the lowest in 1939, when they approved only 39 percent of the $268 million submitted.

In comparison of approvals by 5-year periods, the highest was in 1945–49, when the voters approved $8 billion in municipals (including school bonds), or 83.4 percent of the $9.6 billion proposed; the lowest, in 1937–41, when they approved only 47 percent of the $1.87 billion proposed.

In dollar value, the greatest amount approved was in 1960, with a record $5.917 billion; the lowest, in 1943 with only $49 million.

The net interest cost on all Moody-rated school bonds declined by 18 basis points (0.18 of 1 percent) in January partly because a sale of $100 million at 3.18 percent by the State of California. Without this sale, the average would have been 3.27, or 13 basis points lower than the December average.

Average net interest cost of Moody-rated bonds sold on the primary market for public school purposes, February 1961–February 1962, by rating

Period	Aaa	Aa	A	Baa	Ba	All rated bonds
1959–60	3.26	3.63	3.77	4.21	4.55	3.84
1960–61	2.82	3.34	3.43	3.75	3.97	3.48
1961						
February	2.85	3.16	3.22	3.50	3.86	3.28
March	3.12	3.19	3.44	3.70	4.06	3.46
April	.....	3.20	3.39	3.75	4.28	3.45
May	2.92	3.22	3.31	3.70	4.06	3.38
June	3.01	3.19	3.44	3.65	4.15	3.47
July	2.97	3.25	3.38	3.73	4.21	3.41
August	2.93	3.65	3.47	3.81	4.25	3.59
September	3.08	3.25	3.52	3.75	.....	3.51
October	.....	3.39	3.29	3.70	4.17	3.45
November	.....	3.16	3.37	3.75	3.89	3.43
December	2.97	3.25	3.37	3.76	4.15	3.40
1962						
January	3.02	3.14	3.19	3.55	.....	3.22
February	2.76	3.00	3.16	3.38	3.94	3.13

Source: The Investment Bankers Association and ***Daily Bond Buyer,*** which report with a Moody rating all sales (by school districts, States, counties, cities, towns, townships, and schoolbuilding holding companies) that had more than $600,000 worth of bonds outstanding at the time of sale—in other words, 75–80 percent of all sales. Each month the figures are adjusted to include sales reported too late for inclusion in the month preceding.

[1] *Daily Bond Buyer,* Jan. 5, 1962.

"I do hereby proclaim . . ."

An elaboration on the President's Proclamation

HENRY S. BRUNNER

"I do hereby proclaim . . ."

With these words President John F. Kennedy on August 25, 1961, proclaimed the commemoration of the signing of the first Morrill Act and the beginning of our system of land-grant colleges and universities.

WHEREAS July 2, 1962, marks the centennial of the first Morrill Act, approved by President Abraham Lincoln, granting public lands to States and territories in support of colleges to promote "liberal and practical education . . . in the several pursuits and professions in life;"

Long before the beginning of the Civil War, Abraham Lincoln had written, "Let us hope that by the best cultivation of the physical world beneath and around us, and the best intellectual and moral world within us, we shall secure an individual, social, and political prosperity and happiness, whose course shall be onward and upward, and which, while the earth endures, shall not pass away." Very likely it was on the basis of this hope and belief that in 1862, during one of the darkest periods of the war, a time when there were grave doubts about the very survival of the Nation, President Lincoln found it possible to turn aside from the overwhelming problems surrounding him to sign the Morrill Act. He undoubtedly saw here the vision of incalculable potentialties and opportunities for good in the intellectual, social, and industrial life of the people.

There were three important provisions or elements in the original Morrill Act: First, the provision for the creation of a permanent endowment through grants of public lands for the organization and support of the colleges; second, the designation of the type of college to be established; and third, the placing of an obligation upon the States to maintain intact the capital fund of the endowment for the maintenance of the college. This provision carried the far-reaching implication of future financial support by the State governments themselves.

With respect to grants of public lands, the act specified: "That there be granted to the several States . . . an amount of public land, to be apportioned to each State a quantity equal to 30,000 acres for each Senator and Representative in Congress to which the States are respectively entitled by the apportionment under census of 1860."

It further specified that States having public lands should be given title to such land selected within their borders and that States without public lands should be given script that could be sold, and "the proceeds thereof applied to the uses and purposes described in the Act, and for no other use or purpose whatever."

Senator Morrill was not a college graduate himself. He recognized, however, the limitations in scope and outlook of the prevailing classical college, and he was convinced that it did not meet the Nation's educational needs. The land grants were made, therefore, for the purpose of establishing "at least one college where the leading object shall be, without excluding other scientific and classical studies and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

The third provision, obligating the States to maintain the land-grant endowment intact, without diminution, and to replace it if lost, is regarded as the great stimulus that resulted in public support for higher education in the United States.

and—

WHEREAS the Act opened the doors of colleges and universities to all with the ability and will to learn, irrespective of heredity, occupation, or economic status;

Far-sighted leaders in education as well as politics were attracted by the idea of educational opportunities for all people. Early in the history of our country, Thomas Jefferson, in expressing the democratic ideology, said: ". . . Laws and institutions must go hand in hand with the progress of the human mind; as that becomes more developed, more enlightened, as new discoveries are made, new truths discovered, and manners and opinions change with the change of circumstances, institutions must advance also to keep pace with the times. We might as

well require a man to wear still the coat which fitted him when a boy as civilized society to remain ever under the regimen of their barbarous ancestors."

Then in the mid-19th century, while the Nation was expanding and settling the western frontier, voices were raised to propose the democratization of education. They opposed college for a fortunate few, with curriculums centered on the classics. They proposed a college that would provide instruction in both the liberal and the practical arts for the classes of American citizens that had not the means nor the social background for higher education in the "old" institutions.

As early as 1838, the cause of agricultural education was being pleaded in the State of New York. In an address to the Agricultural and Horticultural Society of New Haven, Conn., Jesse Buell, a New York educator, after dwelling upon the fact that "we have schools for the study of the sciences of medicine, law, engineering and war," said, "for agriculture, by which under the blessing of Providence, we virtually live and move and have our being, and which truly embraces a wider range of science than either law, medicine or navigation, we have no means of professional education at all." He pointed out the evil consequences of this absence of agricultural schools, and closed his appeal with the prophecy that "many who now hear me will live to see professional schools established in our land, and will be induced to consider them the surest guarantee of the perpetuation of our liberties."

Higher education for all

There is a record that in 1845 Jonathan Baldwin Turner, a Yale graduate then living and teaching in Illinois, actively advocated higher education for the industrial classes. In 1852 he proposed that Congress make a land grant to each State for the establishment of industrial universities. His argument was that the existing professions manned by products of the existing classical institutions represented only 1 percent of the population. He pleaded for colleges that would offer needed training to the rest of the people: farmers, mechanics, and others whose trades might be transformed by higher education into professions. In 1853 the Illinois Legislature passed a joint resolution asking for support by the Federal Government for a "peoples" institution in that State.

At about this time the movement for higher education for all the people was receiving attention in other States. Starts were made in four States—Maryland, Michigan, New York, and Pennsylvania—all within a few years.

In 1855 in accordance with a clause in the State constitution (adopted 1850) providing for an agricultural college, the Michigan Legislature appropriated $50,000. With these funds the State bought 700 acres of land near Lansing and erected buildings for an agricultural college. In 1857 the legislature appropriated an additional $40,000 for this purpose, and in the following May the college admitted students. Thus to Michigan belongs the honor of having put the first State agricultural college in the United States into operation.

First degrees

In Pennsylvania, in 1855, the legislature incorporated "The Farmer's High School of Pennsylvania." This institution soon became the Agricultural College of Pennsylvania and, in 1861, conferred the first bachelor of scientific agriculture degrees to be granted in America.

Because of these and similar developments during the period preceding the Civil War, a number of States were ready to accept the provisions of the Morrill Act soon after it was passed by the Federal Congress in 1862 and to establish their chosen institutions as land-grant colleges or universities. The first State to accept was Iowa in September 1862, closely followed by Vermont, the home State of Representative Morrill, and Connecticut. Fourteen other States, including Michigan and Pennsylvania, accepted in the following year.

Within 8 years after the passage of the act, 37 States had agreed to accept and carry out its provisions for this new type of college.

The first Morrill Act applied only to the States then in the Union, but amendments extended its terms to West Virginia in 1864, to Nevada in 1866, and Nebraska in 1867. Subsequently, the grants were extended to the Territories as they were admitted into the Union so that

Dr. Brunner, specialist for agricultural education, Division of Higher Education, came to the Office in 1959 from The Pennsylvania State University, where he had been professor and head, Department of Agricultural Education, since 1934. He has also been visiting professor at summer sessions at Colorado State University and University of Maine and has been chairman of the National Commission on Research in Agricultural Education, American Vocational Association; member, American Board of Trustees for Lingnan University; member, National Advisory Committee, Danforth Foundation; and chairman, Pennsylvania-State-in-China Committee, 1942–6.

the act was made applicable to every State, and in some measure by special legislation to the remaining Territories.

and—

WHEREAS the land-grant institutions in the 50 States and the Commonwealth of Puerto Rico carry research and teaching to the citizens of these States and the Commonwealth and to people of other nations, particularly the emerging nations, seeking solutions to economic, social, and physical ills, and enriching the cultural life of the people;

During the years immediately following the establishment of the land-grant colleges and universities, leaders in education and government came to realize that in order to furnish proper scientific, technical, and practical instruction for all the people, it would be necessary to build up a body of truly scientific knowledge, and then provide a comprehensive system for disseminating and making this knowledge useful in the industry and economy of the country.

Consequently, in 1887, Congress passed the Hatch Act providing for the establishment in each State of an agricultural experimental station to promote scientific investigation and experimentation in agriculture. Following this, in logical sequence, came the Smith-Lever Act of 1914, "to aid in diffusing among the people . . . useful and practical information on subjects relating to agriculture and home economics and to encourage application of the same . . . ."

These three broad services—instruction, research, and extension—are centered in the land-grant institutions and are operated cooperatively with the agencies of the Federal Government. The programs have grown in scope, and amendments to the original legislation have increased the amounts of Federal funds appropriated annually for their support.

For the programs of resident instruction, the first Morrill Act was amended in 1890 to provide that each State and Territory should receive $15,000 annually, to be increased from year to year up to $25,000 for the land-grant institutions. In 1908 an amendment to this second Morrill Act, known as the Nelson amendment, provided another series of increases totaling $25,000 for each State and Territory annually, thus bringing the flat grants to $50,000. The Bankhead-Jones Act of 1935 authorized annual appropriations for further uniform grants of $20,000 to each State, as well as a sum of $1,501,500 to be apportioned among the States on a population formula. In July 1960, the 86th Congress passed an amendment (Public Law 86–658) to the Bankhead-Jones Act authorizing an increase in the resident instruction funds, and on this authority the 87th Congress appropriated (Public Law 87–290) $8,194,000 for this purpose, thus providing a flat uniform grant of $90,000 for each State and Puerto Rico, and $3,604,000 to be apportioned on the basis of population. This amounts to a total of $10,744,000 of Federal funds under the Morrill-Nelson and Bankhead-Jones Acts for the support of resident instruction in the 68 land-grant colleges and universities.

The Federal appropriations to the States for research under the Hatch Act as amended and the more recent Agricultural Marketing Act totaled $34,725,021 for the year ending June 30, 1962. For the cooperative extension program in agriculture and home economics under the Smith-Lever Act and other related legislation, the appropriations totaled $59,590,000 for the same year.

The centennial year of these colleges and universities finds faculties and students both living more closely with the advanced scientific and industrialized world they helped to create. Experimental animal shelters, experimental greenhouses, nursery schools, art galleries and studios, language laboratories, radio and television stations, radio telescopes, mass spectrometers, radioisotopes, nuclear reactors, computers, filmed documentaries—all phases of scientific and social learning and investigation characterize the present mission of this educational system. These institutions, born out of a belief in education as the basis for individual and social progress and proposed by the early leaders out of true and enduring faith in the people of all classes, are now serving as an example to the world, and especially the newly developing nations. Furthermore, they are accepting and fulfilling their responsibility for international education, for leading in relationships to help the people of the world with their technical scientific and social problems. As of the end of 1961, through the U.S. Agency for International Development (AID), 28 of the land-grant colleges and universities were engaged in 53 separate contracts for technical and staff assistance in educational institutions in 26 different foreign countries. This, indeed, represents a worldwide campus.

and—

WHEREAS the land-grant system of higher education is the Nation's largest single source of trained and educated manpower and now contributes more than one-half of the Nation's trained scientists and nearly one-half of all Regular and Reserve officers entering the armed forces through the military programs conducted at civilian institutions;

It has been pointed out in Congress, and in many other places during recent months, that largely due to the land-

25 Nobel Prize winners earned degrees at land-grant institutions

Melvin Calvin U. of Minnesota, Ph. D., 1935	1961—Chemistry: For determining the essential processes of photosynthesis.
Willard F. Libby U. of California, B.S., 1931; Ph. D., 1933	1960—Chemistry: For development of "atomic timeclock" method for dating geological age and for discovering that tritium, a radioactive form of hydrogen, could be used to trace meteorological and geophysical processes.
George W. Beadle U. of Nebraska, B.S., M.S., 1926; Cornell U., Ph. D., 1931	1958—Medicine (with Edward L. Tatum): For their discovery that genes act by regulating definite chemical processes.
Edward L. Tatum U. of Wisconsin, A.B., 1931; M.S., 1932; Ph. D., 1934	1958—Medicine (with George W. Beadle).
William B. Shockley MIT, Ph. D., 1936	1956—Physics (with John Bardeen and Walter H. Brattain): For their investigations on semiconductors and the discovery of the transistor effect.
John Bardeen U. of Wisconsin, B.S., 1928; M.S., 1929	1956—Physics (with William B. Shockley and Walter H. Brattain).
Walter H. Brattain U. of Minnesota, Ph. D., 1929	1956—Physics (with William B. Shockley and John Bardeen).
Polykarp Kusch U. of Illinois M.S., 1933; Ph. D., 1936	1955—Physics (cowinner with Willis E. Lamb, Jr.): For his precise determination of the magnetic moment of the electron.
Willis E. Lamb, Jr. U. of California, B.S., 1934; Ph. D., 1938	1955—Physics (cowinner with Polykarp Kusch): For his discoveries concerning the fine spectrum of hydrogen.
Vincent du Vigneaud U. of Illinois, B.S., 1923; M.S., 1924	1955—Chemistry: For his work on biochemically important sulfur compounds, especially for the first synthesis of a polypeptide hormone.
Linus C. Pauling Oregon State U., B.S., 1922	1954—Chemistry: For his research into the nature of chemical bonds and its application to the structure of complex substances.
Frederick C. Robbins U. of Missouri, A.B., 1936; M.S., 1938	1954—Medicine (with John F. Enders): For their discovery of the ability of the poliomyeletis virus to grow in cultures of different tissues.
Edward M. Purcell Purdue U., B.S., 1933	1952—Physics (with Felix Bloch): For their development of new methods for nuclear magnetic precision measurements.
Selman A. Waksman Rutgers U., B.S., 1915; M.S., 1916; Ph. D., 1918	1952—Medicine: For his co-discovery of streptomycin, the first antibiotic substance efficacious against tuberculosis.
Glenn T. Seaborg UCLA, A.B., 1934; U. of California, Ph. D., 1937	1951—Chemistry (with Edwin M. McMillan): For their discoveries in the chemistry of transuranium elements.
Philip S. Hench U. of Minnesota, M.S., 1931	1950—Medicine: For discoveries concerning the suprarenal cortex hormones, their structure and biological effects.
Ralph J. Bunche UCLA, A.B., 1927	1950—Peace: For negotiation of armistice between Israel and the Arab States.
William F. Giauque U. of California, B.S., 1920; Ph. D., 1922	1949—Chemistry: For research in thermodynamics, especially effects of low temperatures.
Wendell M. Stanley U. of Illinois, M.S., 1927; Ph. D., 1929	1946—Chemistry (with John H. Northrop): For their achievements in preparing enzymes and virus proteins in pure form.
I. I. Rabi Cornell U., B.S., 1919	1944—Physics: For his application of the resonance method to the measurement of the magnetic properties of atomic nuclei.
Joseph Erlanger U. of California, B.S., 1895	1944—Medicine (with Herbert S. Gasser): For their discoveries concerning the highly differentiated functions of single nerve fibers.
Herbert S. Gasser U. of Wisconsin, A.B., 1910; M.S., 1911	1944—Medicine (with Joseph Erlanger).
Edward A. Doisy U. of Illinois, A.B., 1914; M.S., 1916	1943—Medicine: For his discovery of the chemical nature of vitamin K.
Pearl S. Buck Cornell U., M.A., 1926	1938—Literature: For her rich and genuine epic pictures of Chinese life, and for her masterly biographies.
Harold C. Urey U. of California, Ph. D., 1923	1934—Chemistry: For his discovery of heavy hydrogen.

grant colleges and universities and the example they set, 1 in 3 college-age Americans today enjoys the privilege and benefits of college education as compared with only 1 in 1,500 at the time of President Lincoln's signing of the first Morrill Act.

Presently there are 68 institutions in the land-grant system. Some are one with the State university, as in Minnesota, Missouri, and Tennessee; some are separate, as in Kansas, Oklahoma, and Virginia; and two, Cornell and Massachusetts Institute of Technology, function as a part of a private institution. Although they comprise only 4.7 percent of the Nation's 4-year colleges, they

enroll more than 20 percent of all degree-credit college students. They grant one-fifth of all bachelor's degrees, one-fourth of all master's degrees, and two-fifths of all doctorates conferred in the United States. In engineering they grant 40 percent of all bachelor's degrees, 42 percent of all master's degrees, and 53 percent of all Ph. D.'s. In mathematics they grant 35 percent and in the physical sciences 42 percent of the Ph. D. degrees. In agriculture, as might be expected, the percentages are even higher: 80 percent of the baccalaureate, 97 percent of the master's, and all the doctoral degrees. From the land-grant colleges have come the scientists who have made possible for the United States our magnificent efficiency in agriculture, and the scientists who have provided the basis for a continuing peaceful revolution and the industrialization that leads the world in meeting the needs of the people.

In an address at the University of Massachusetts in 1887, 25 years after passage of the land-grant act, Senator Justin W. Morrill said: "The existence of these colleges can alone be vindicated by the reason that they are not superfluous but indisputably wanted; and that their work is not Utopian but practically of real service to our country. They must derive all of their dignity, not from any real or supposed obstacles encountered in their origin, but from the substantial equivalent they give for the 4 years of vigorous life surrendered by students to their guidance, and from the luster reflected upon them by their alumni."

While it would be impossible to assemble, much less to write about, the total accomplishment and luster that their alumni reflect upon these institutions, one example is selected to be noted. Of the 42 living American Nobel Prize winners who studied in this country, 25, or 60 percent, earned one or more degrees from a land-grant institution.

and—

WHEREAS these institutions have historically maintained and currently maintain close cooperative relationships with the United States Department of Agriculture, which marks the centennial of its establishment on May 15, 1962, and also maintain close working relationships with other departments and agencies of the Government, including the Departments of Defense, the Interior, Commerce, Labor, and Health, Education, and Welfare, the United States Information Agency, and the International Cooperation Administration;

The land-grant institutions are real and functioning examples that Federal aid to education can serve the national interest with enormously valuable results and without sacrifice of local self-government or institutional integrity. All the agencies of good government, as well as the educational institutions of a country, have responsibility for conserving and making the best use of the natural resources and the manpower of the Nation. Research develops the scientific information and through education the citizenry comes to appreciate the importance and urgency of stewardship. This broad and strong mutual interest has led to the development of the Federal-State partnership in the educational program carried on in the land-grant colleges and universities. These official ties during this first 100 years of their being have had much to do with the part these institutions have played in the "scientific revolution."

When the act was passed in 1862 there were just about 200 colleges, all offering classical courses leading to the A.B. degree. The sciences had not yet become a respectable and accepted part of the body of knowledge. It has been said in the halls of Congress recently, quoting from a Christian Science Monitor article by John T. Caldwell, that the United States today would be immeasurably poorer but for this imaginative Federal action a century ago and its continued support in partnership with the States. Whether measured in student enrollment, off-campus instruction, and technical assistance or in research of fundamental value to general welfare, this group of institutions has made the Morrill Act probably the most significant single piece of social legislation in United States history.

Hence, the proclamation:

NOW, THEREFORE, I, JOHN F. KENNEDY, *President of the United States of America, do hereby proclaim that it is fitting and proper to commemorate the centennial of this historic Act of Congress; and I request that the agencies of the Government cooperate with the land-grant universities and colleges throughout the academic year 1961–1962 in recognizing the historical and present close cooperative relationship of such institutions with the departments and establishments of the Government.*

I also request that such centennial be otherwise appropriately celebrated to the end that the occasion may serve to commemorate the unparalleled opportunities for higher education provided by these publicly supported institutions and their efforts through teaching, research, and service to improve the economic, social, and cultural lives of the people of this Nation and of other nations.

IN WITNESS WHEREOF, *I have hereunto set my hand and caused the Seal of the United States of America to be affixed.*

IBE–UNESCO Conference

THE 25TH INTERNATIONAL CONFERENCE on Public Education, jointly sponsored by the International Bureau of Education (IBE) and the United Nations Educational, Scientific, and Cultural Organization (UNESCO), will be held in Geneva, Switzerland, on July 2–13. The admission of four new nations this year—Guinea, Jordan, Korea, and Nigeria—brings the total number of IBE member nations to 55. As in past years, delegates from the member states will discuss two topics chosen from the entire field of education. The 1962 topics are "Educational Planning" and "Inservice Training of Primary (Elementary) Schoolteachers."

The United States, which has participated in many of the IBE conferences but has been a member only since 1958, has selected a four-man delegation to represent it. Sterling M. McMurrin, U.S. Commissioner of Education, will lead the group. Other delegates will be Benjamin C. Willis, general superintendent of schools, Chicago; Eunice S. Matthew, assistant professor of education, Brooklyn College; and Hazel F. Gabbard, specialist for international organizations, U.S. Office of Education. Dr. Willis will speak for educational planning; Dr. Matthew for inservice training of primary school teachers. Miss Gabbard is the continuing delegate.

IBE has sent out questionnaires to member nations on the topics selected for this year. Two panels of Office of Education specialists have prepared replies. The first panel, on educational planning, was made up of Fred F. Beach, director of the School Administration Branch; Herbert G. Espy, assistant to the Deputy Commissioner of Education; and Robert F. Will, specialist for State education organization. The second on inservice training for primary school teachers, had two members—Helen K. Mackintosh, chief of the Elementary School Section, and Robert Poppendieck, specialist for teacher education. Miss Gabbard acted as coordinator for both panels.

IBE–UNESCO conferences follow much the same pattern each year. After delegates present the progress reports of their countries, other delegates ask questions about them. The conference also considers two draft recommendations on the special topics under consideration which are based on replies from countries to questionnaires. These documents are discussed and amended, and are adopted as educational guidelines to ministries of education.

Over the years these conferences have adopted 53 recommendations about many educational topics. These recommendations are providing nations all over the world with guidelines to follow in organizing educational systems. They furnish all member nations with helpful guidelines by which to judge their educational progress. Topics in recent years have included these: The organization of preprimary education; the organization of one-teacher preprimary schools; the organization of special education for mentally handicapped children; the preparation and issuing of general secondary school curriculums; the preparation, selection, and use of primary school textbooks; the expansion of school building; and the financing of education.

IBE began in 1929 with three nations as members—Ecuador, Poland, and Switzerland. Today its 55 members are in 5 continents—Asia, Africa, Europe, and North and South America. Sixteen nations have joined in the last 3 years. Members include large nations, such as the U.S.S.R., and small ones, such as Kuwait. With the birth of more and more nations, it is likely that IBE will continue to expand. Present membership includes these nations:

Argentina
Austria
Belgium
Bolivia
Brazil
Bulgaria
Byelorussia
Cambodia
Chile
Colombia
Czechoslovakia
Dominican Republic
Ecuador
Finland
France
Germany
Ghana
Greece
Guatemala
Guinea
Haiti
Hungary
India
Iran
Iraq
Israel
Italy
Japan
Jordan
Korea
Kuwait
Lebanon
Liberia
Mexico
Morocco
Nigeria
Panama
Philippines
Portugal
Poland
Republic of China
Roumania
Saudi Arabia
Spain
Switzerland
Thailand
Tunisia
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Union of Soviet Socialist Republics
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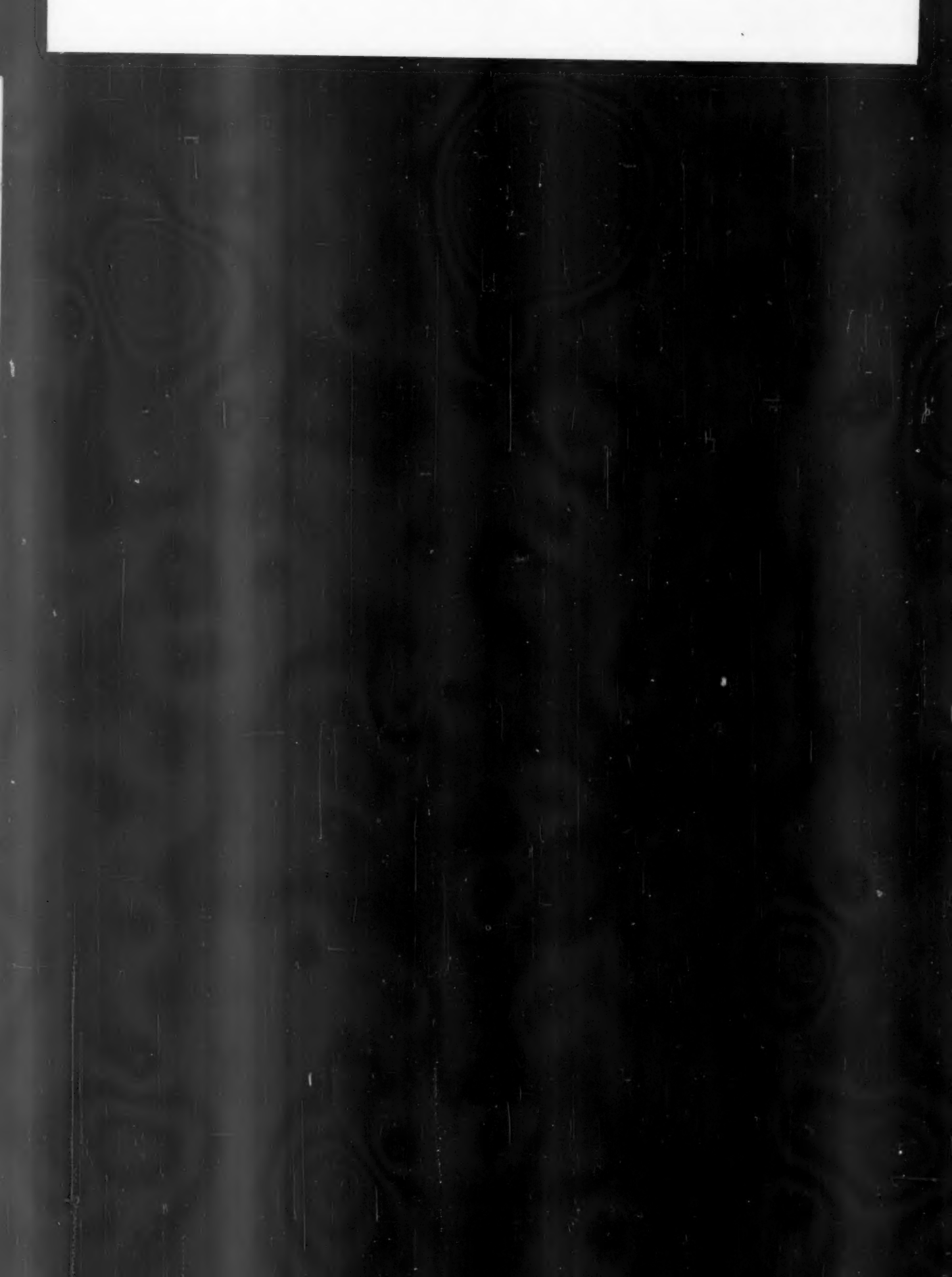
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